

51

Date: Thursday, 11/15/2007 7:33:42 AM  
User: Kim Johnston

# Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : 350/355 AS X-TUBE AFT UNDER REVIEW
Job Number : 35733	
Estimate Number : 12486	
P.O. Number :	Part Number : D350748201
This Issue : 11/15/2007 S.O. No. :	Drawing Number : N/A UNDER REVIEW <i>NA</i>
Prsht Rev. : NC	Project Number : N/A
First Issue : 1/1 Type : LANDING GEAR	Drawing Revision : <i>NA REV 6 11/15</i>
Previous Run : 35732	Material :
Written By :	Due Date : 12/21/2007 Qty: 1 Um: Each
Checked & Approved By :	
Comment : Est Rev: A New Issue 06-07-05 JLM	
Est Rev: B Update qty of MS21042L5 06-09-12 KJ	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: Photocopy bluefile & type labels per PPPD350-748-201 CHG001

*08/04/12*

2.0	35733A	X-TUBE AS 350/355 HI AFT UNDER REVIEW
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Comment: Sub-Component X-TUBE AS 350/355 HI AFT  
D350-748-241 B

*B35733A*

*New Batch #*

*AS 08/04/17 (XU)*

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1  
Pick Packing Kit

4.0	D35001	350 SADDLE
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
350 SADDLE  
Batch: *B35315*

*AS 08/04/17 (XU)*

5.0	D35011	BUSHING
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Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)  
BUSHING  
Batch: *B32204*

*AS 08/04/17 (XU)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:33:42 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

Job Number: 35733

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

AN46A

Bolt



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Bolt

Batch: M105810

AS 08/04/17 (X)

7.0

AN441A

bolt



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

bolt

Batch: M105940

AS 08/04/17 (X)

8.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M106519

AS 08/04/17 (X)

9.0

AN960JD416

Washer



Comment: Qty.: 32.0000 Each(s)/Unit Total : 32.0000 Each(s)

Washer

Batch: M107321

AS 08/04/17 (X)

10.0

AN960JD516

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Washer

Batch: M107008

AS 08/04/17 (X)

11.0

MS21042L4

Nut



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Nut

Batch: M106825

AS 08/04/17 (X)

12.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch: M106785

AS 08/04/17 (X)

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 11/15/2007 7:33:42 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT UNDER REVIEW

Job Number: 35733

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/04/21 (40)

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-201

Location:

PPP Rev:

A

8/16/21

SD

(1x)

15.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/04/23 (10)

Job Completion



MF 08-04-22

B35733

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 11/15/2007 7:33:50 AM  
 User: Kim Johnston

## Process Sheet

51

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : X-TUBE AS 350/355 HI AFT UNDER REVIEW
Job Number : 35733A	
Estimate Number : 12483	
P.O. Number :	Part Number : D350748241
This Issue : 11/15/2007 S.O. No. :	Drawing Number : D350-748-241 U/R <i>REV D</i>
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : LANDING GEAR	Drawing Revision : <i>0-D</i> <i>11/15</i>
Previous Run : 35732A	Material :
Written By :	Due Date : 12/21/2007 Qty: 1 Um: Each
Checked & Approved By :	
Comment : Est Rev: A New Issue 06-07-05 JLM	
Est Rev: B Update cadplate process 06-09-12 KJ	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D350-748-241 CHG001

*N/A*

2.0	D6018125	Crosstube Material
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Material

D6018-125

2.299" OD X 2.000" ID

Batch: *B 27472**J.F. 07/12/02**①*

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs on both ends as per Folio FA647

2-Turn first side as per Folio FA647

*J.F. 07/12/03**①*

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

*J.F. 07/12/03**①*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35733A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA647

J.F. 07/12/03 ①

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D350-748-241.

3-Scribe part # as per Dwg D350-748-241

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

J.F. 07/12/03 ①

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

85 07/12/03

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Remove all Machining Marks

Jb 7-12-9

9.0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 5266

C207/12/12 ①

Heat Treat to min 180 KSI As per Dwg D350-748-241

Sand Blast tube after Heat Treat

Possible Supplier: Vac Aero

Ensure Certificate of Conformity is attached

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformaty is attached

C 5/01/10 ①

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

5 08/01/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:33:51 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35733A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

12 0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1  
Oil inside of tube with LPS-3.

NIA

A/R

LPS-3

Batch:

M105005

FM-A

08/03/04 (14)

13 0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT N/A EL/TR 8-1-21

14 0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

08-01-24 (1)

15 0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Remove all marks from tube within limits of D350-748-241

- AWM 8-2-25

2-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,  
Set-up drill table as per QSI 010

EL 8-2-21

3-Deburr

4-Engrave Part # and Batch # as per Dwg D350-748-241

AWM 8-2-25

16 0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

08/01/04 (1)

17 0

OUTSIDE SERV.10

OUTSIDE SERVICES -LG



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: 5347

(08/03/04) (1)

Stress relief at 375° for 5 hours

Magnetic Particle Inspect per ASTM E1444

Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2

Embrittle relief at 375° for 8 hours, Chromate Treat

Possible Supplier: Southwest United Industries

Ensure Certificate of Conformity is attached

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:33:51 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35733A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

*Handwritten: 12/2/9 (1)*

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Handwritten: 5 08/04/07 (4)*

20.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside crosstube as per QSI 005 4.2 *in 08-04-08*

2-Paint Outside of Tube as per Dart QSI 005 4.2

*Handwritten: ml 08 04 10 (1) ml 08 04 15 (1)*

21.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

*Handwritten: 08-04-16*

22.0

D35021

SUPPORT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

SUPPORT

Batch: 35783

*Handwritten: ml 08 04 17*

23.0

D2856400

Abrasion Strip



Comment: Qty.: 1.2401 f(s)/Unit Total : 1.2401 f(s)

Abrasion Strip 7.10" long x2

Batch: 35900

*Handwritten: ml 08 04 17*

24.0

ALS41032225

Insert



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Insert




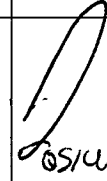

Batch: 100621

*Handwritten: ml 08 04 17*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-748-241 PAR #: N/A Fault Category: Prod / Finishing <sup>b-tube</sup> NCR: Yes No DQA: D Date: 08/04/23  
 QA: N/C Closed: D Date: 08/04/23

NCR: 35733A		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/04/15	20.0	Run in Primer under Paint. Too much paint in one spot. ( <del>Human Error</del> )	 08/04/15	SAND with 320, and re-paint.  as per OSI 005-4.2	 08/04/15	 08/04/17	 08/04/17	 08/04/17

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 8:56:17 AM  
User: Melanie Fauteux

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : X-TUBE AS 350/355 HI AFT UNDER REVIEW
<b>Job Number</b> : 35733A	
<b>Estimate Number</b> : 12483	
<b>P.O. Number</b> :	<b>Part Number</b> : D350748241
<b>This Issue</b> : 04/04/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D350-748-241 U/R
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : 15/11/2007 <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : C
<b>Previous Run</b> : 35732A	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 21/12/2007 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> :	
<b>Comment</b> : Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update cadplate process 06-09-12 KJ	

### Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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28.0	CROSSTUBES	CROSSTUBES RESOURCE 1
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**Comment:** LANDING GEAR RESOURCE 1

1-Install Ground wire Insert, then insert screw and washer

2-Install Abraison strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

**REFERENCE ONLY**

M/ 08 04 17 (1)

Job Completion







Date: Thursday, 11/15/2007 7:33:51 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35733A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

AN960JD10

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Washer

Batch: 107534

ml 08 04 17

26.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Clamp (per MIL-DTL-8783C)

Batch: 106484

ml 08 04 17

27.0

MS27039110

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Screw

Batch: 18836

ml 08 04 17

28.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install Ground wire Insert, then insert screw and washer

2-Install Abrasion strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

ml 08 04 17 (1)

29.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8/28/04/17 (X)

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-241

Location: AP

PPP Rev: 35733

8/4/04

SD

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 11/15/2007 7:33:51 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: X-TUBE AS 350/355 HI AFT UNDER REVIEW

Job Number: 35733A

Part Number: D350748241

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/23  
[Signature]

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



UMF  
08-04-22

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 35733A
<b>Description:</b> Crosstube Assembly (AS350/355 High Aft)	<b>Part Number:</b> D350-748-241
<b>Inspection Dwg:</b> D350-748-241 Rev: D	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet Drawing Dimension		Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245"	✓			
	2.180	+0.005/-0.000	2.185"	✓			
	2.180	+0.005/-0.000	2.185"	✓			
	2.208	+0.005/-0.000	2.213"	✓			
	2.234	+0.005/-0.000	2.238"	✓			
	2.253	+0.005/-0.000	2.255"	✓			
	2.272	+0.005/-0.000	2.276"	✓			
	2.299	+0.005/-0.000	2.302"	✓			
	0.063	+/-0.010	0.073"	✓			
	4.26	+/-0.030	4.271"	✓			
	R0.063	+/-0.010	R0.063"	✓			
	R0.50	+/-0.030	R0.500"	✓			
SIDE B	2.240	+0.005/-0.000	2.244"	✓			
	2.180	+0.005/-0.000	2.183"	✓			
	2.180	+0.005/-0.000	2.184"	✓			
	2.208	+0.005/-0.000	2.212"	✓			
	2.234	+0.005/-0.000	2.236"	✓			
	2.253	+0.005/-0.000	2.254"	✓			
	2.272	+0.005/-0.000	2.275"	✓			
	2.299	+0.005/-0.000	2.300"	✓			
	0.063	+/-0.010	0.073"	✓			
	4.26	+/-0.030	4.273"	✓			
	R0.063	+/-0.010	R0.063"	✓			
	R0.50	+/-0.030	R0.500"	✓			
	122.70	+/-0.060	122.700"	✓			

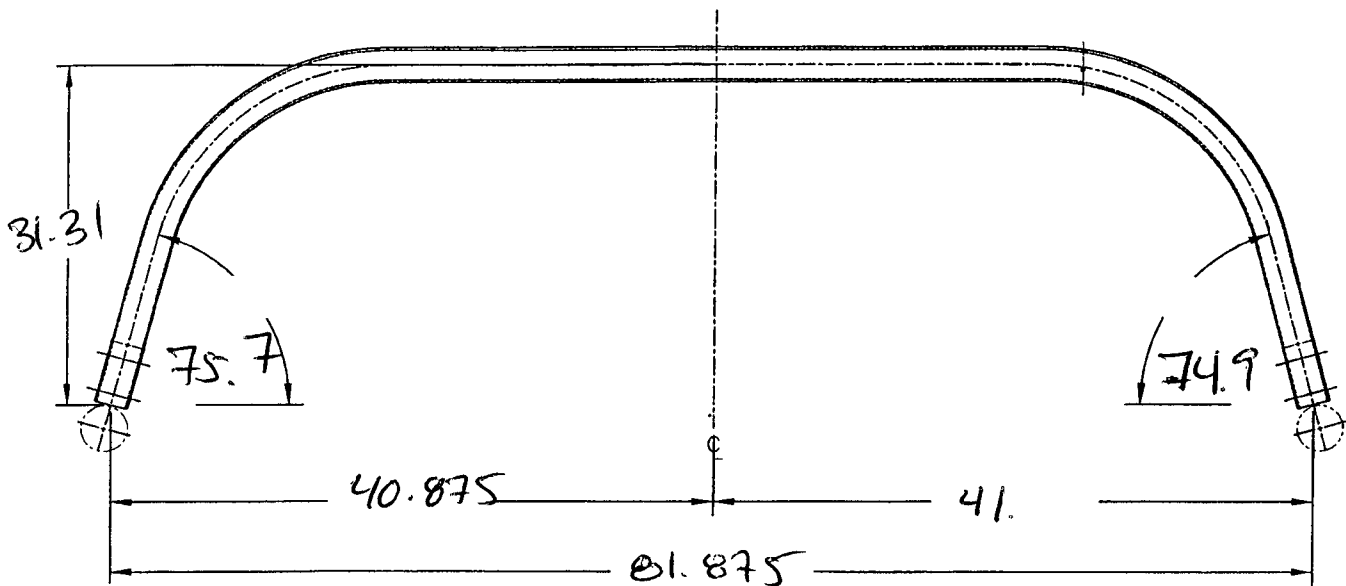
<b>Measured by:</b> J-F-	<b>Audited by:</b> 815	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 07/12/03	<b>Date:</b> 07/12/03	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue (P/O D350-748-201)	KJ/JLM	



DART AEROSPACE LTD		Work Order:	35733A
Description: Crosstube High Aft (AS350/355)		Part Number:	D350-748-201
Inspection Dwg: D350-748-241      Rev: D		Page 1 of 1	

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments

QC15 Inspection	<i>[Signature]</i> 08-01-24
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>







DESIGN 92	DRAWN BY 92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D350-748-241	REV. D SHEET 1 OF 3
DATE 06.10.31		TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE NTS
A	06.03.31	NEW ISSUE	
B	06.06.30	ADD D6018-125 & PRIME AND PAINT	
C	06.08.14	ADD CAD PLATING	
D	06.10.31	MAG. PARTICLE AND CAD PLATE AS MFD.	

RELEASED

06.10.31 H

QTY	P/N	DESCRIPTION
X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
1	D6018-125	CROSSTUBE (OR D6015-125)
2	D3502-1	SUPPORT
2	D2856-400-710	ABRASION STRIP
1	AELS-1032-225	INSERT
1	AN960JD10	WASHER
2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
1	MS27039-1-10	SCREW

#### D350-748-141 CROSSTUBE:

- MATERIAL: MANUFACTURED FROM D6018-125 OR D6015-125  
FINISHED LENGTH =  $122.70 \pm 0.06$
- MACHINE PER MACHINING DETAIL ON PAGE 3. BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITIONS SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING
- FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2  
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- INSTALL D2856-400-710 ABRASION STRIP WITH A GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- TORQUE MS21920-20 CLAMPS 60 TO 80 IN-LB
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE IN INCHES
- PART IS SYMMETRIC ABOUT CENTERLINE EXCEPT FOR  $\varnothing 0.297$  HOLE.

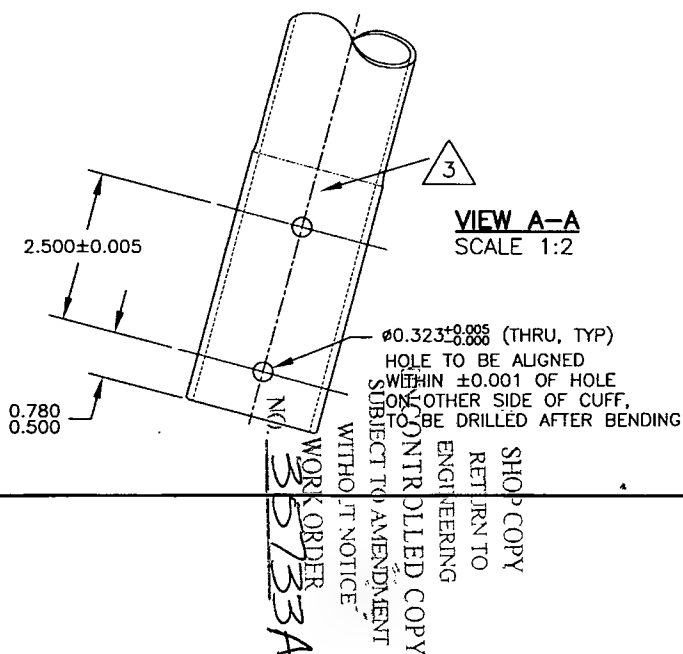
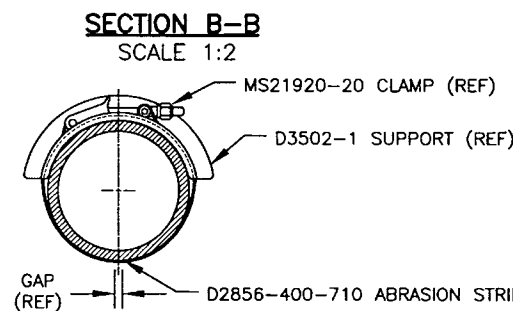
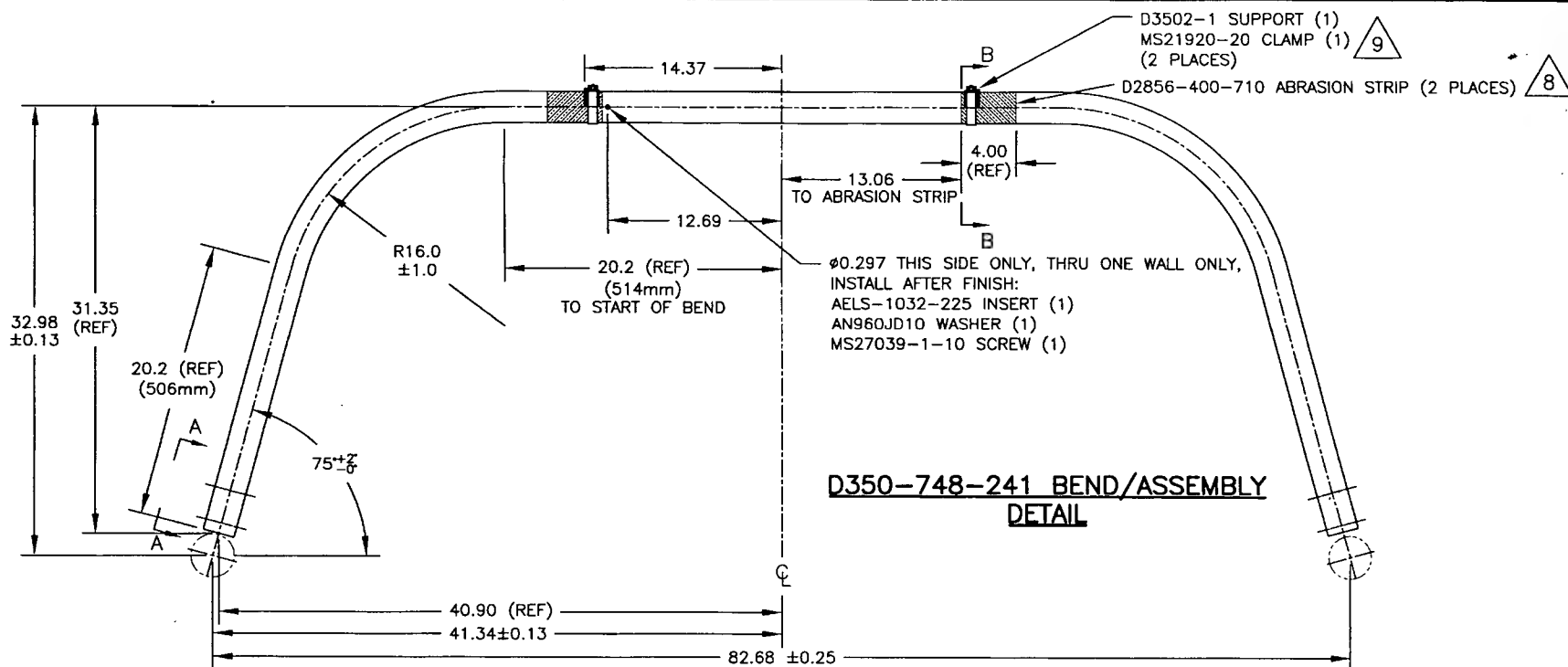
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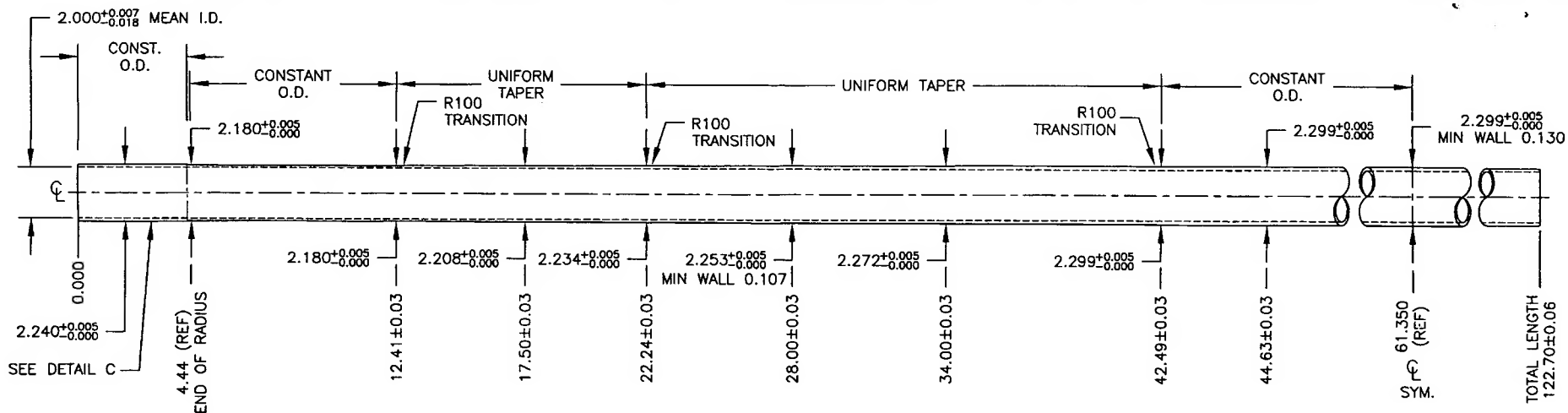




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06.10.31

COPYRIGHT © 2006 BY DART AEROSPACE LTD.		DESIGN	q2	DRAWN BY	q2	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		CHECKED	#	APPROVED	#	DRAWING NO. D350-748-241	REV. D SHEET 2 OF 3
		DATE	06.10.31	TITLE		CROSSTUBE (AS 350/355 HI AFT)	SCALE 1:8



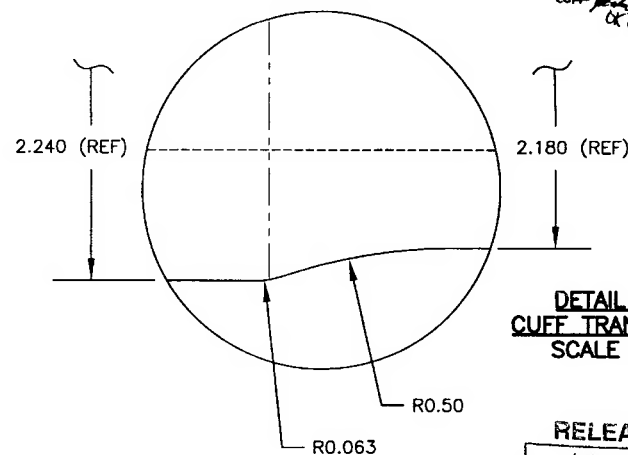
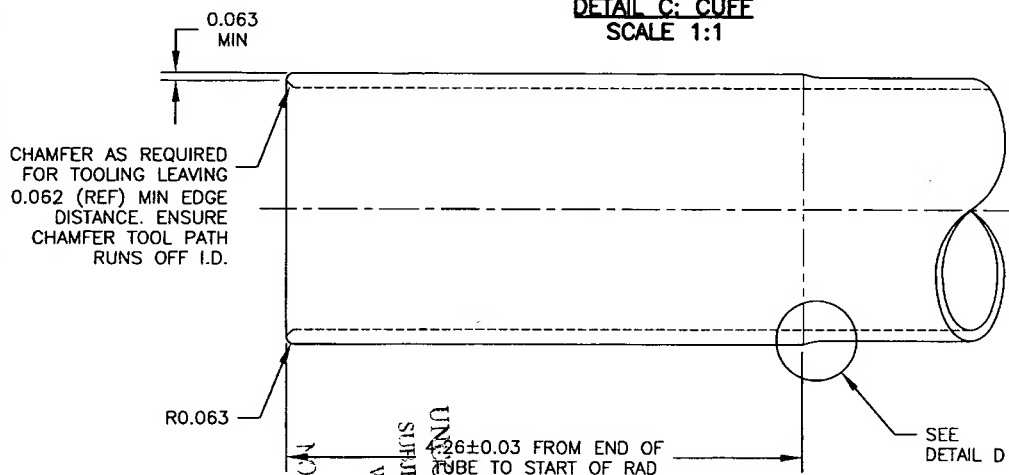


### D350-748-241 MACHINING DETAIL

UNDER REVIEW

07.02/16  
DART AEROSPACE LTD.  
06.10.22

#### DETAIL C: CUFF SCALE 1:1



#### DETAIL D: CUFF TRANSITION SCALE 9:1

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06.10.31

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DESIGN 40	DRAWN BY 40	<b>DART</b>	DART AEROSPACE LTD. WARRICKSLEY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D350-748-241	REV. 0 SHEET 3 OF 3
DATE 06.10.31	TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE 1:4	

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**VAC AERO**  
INTERNATIONAL INC.

**RELEASE NOT**

GST No.: R105468102

OAK 94195-1



**HEAD OFFICE**  
1371 SPEERS ROAD, OAKVILLE, ONTARIO  
CANADA L6L 2X5  
TEL: (905) 827-4171 FAX: (905) 827-7489



2009 WYECROFT ROAD, UNIT B  
OAKVILLE, ONTARIO  
CANADA L6L 6J4  
TEL: (905) 827-7377 FAX: (905) 827-1380



**QUEBEC DIVISION**  
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC  
CANADA H4S 1C5  
TEL: (514) 334-4240 FAX: (514) 334-6269

01/07/2008

MM / DD / YYYY

PAGE: 1

**BILL TO:** 1DAR01  
DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON

**SHIP TO:** DART AEROSPACE LTD.  
1270 ABERDEEN ST.  
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
01/07/2008		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
5266		COD

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D350-748	-141	EA	10	10	
Process Specifications: Procedure: 4353 HEAT TREATED TO 180 KSI MIN. PER AMS 2759-1D 100% HARDNESS CHECKED AS PER ASTM E-18 HRC 40-45 MATERIAL: 4130 SAND BLASTED  D350748141B357-27A, 28A, 29A, 30A, 31A D350748241B357-32A, 33A, 34A, 35A, 36A  NOTE: NO SERIAL NUMBERS FOUND ON PART'S					

**100% HARDNESS TESTED**

Qty: 10 Pcs

42/43 HRC 07 Jan 08



I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Authorized Q.C. Inspector



**VACUUM BRAZING · HEAT TREATING · SPECIAL PROCESSING · FURNACE EQUIPMENT**  
**TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS**



**CERTIFICATE OF  
CONFORMANCE**

**CADORATH PLATING CO. LTD.  
2150 LOGAN AVENUE  
WINNIPEG, MANITOBA R2J-0J1**

**DATE:** Mar-29-2008

**CONIGNED TO:** Dart Aerospace Ltd.  
1270 Aberdeen St.  
Hawksbury, ON K6A 1K7

**W/O #:** 74718

**INVOICE #:** 38606

**CONTRACT OR  
PURCHASE ORDER #** 5847

**DESCRIPTION:** SKID

**QTY** 1

**P/N #** D350748241

**S/N #** B35733A

**CADMIUM PLATE IAW AMS-QQ-P-416 TYPE 2 CLASS 1. MPI IAW  
ASTM-E-1444. HEAT CHART #8933 & #8983.**

**CERTIFICATE: I certify that the items indicated here on have  
been inspected and tested and conform to all specifications  
and requirements detailed on the contract or purchase order.**

**Approved Inspector:**

*William Maruszewski*

